

CLAIMS

1. A digital audio file reproduction apparatus having wireless transfer capability with a remote device, comprising:

a memory;

a controller coupled to store and recall digital audio files with said memory;

5 a transceiver, coupled to said controller, operable to transmit and receive digital audio files according to a radio protocol;

an audio circuit coupled to receive audio files from said controller, and output the audio files for analog audio reproduction, and wherein

said controller is responsive to the receipt of an in-range radio signal by said
10 transceiver, from the remote device, to exchange digital audio files with the remote device via said radio protocol.

2. The apparatus of Claim 1 wherein said memory further comprises a memory card slot coupled to said controller and adapted to accept a user-replaceable memory card.

3. The apparatus of Claim 2 wherein said memory card slot is adapted to accept plural user-replaceable memory cards.

4. The apparatus of Claim 1 wherein said controller is operable to compress and decompress the digital audio files.

5. The apparatus of Claim 4 wherein the digital audio files are compressed and decompressed according to the MP3 format.

6. The apparatus of Claim 4 wherein said controller comprises a digital signal processor operable to compress and decompress the digital audio files.

7. The apparatus of Claim 1 further comprising:
a microphone circuit coupled to said controller, and wherein
said controller is operable to receive microphone audio signals from said
microphone circuit, and operable to digitize and store said microphone audio signals as
5 digital audio files in said memory.

8. The apparatus of Claim 1 wherein said air protocol is selected from one of a wireless LAN standard protocol, the Bluetooth protocol, a proprietary cordless telephone data protocol, and the 2.4 GHz cordless protocol.

9. The apparatus of Claim 1 wherein said controller controls said transceiver to periodically transmit a link request radio signal for receipt by the remote device.

10. The apparatus of Claim 1 wherein said controller is operable to control said transceiver to transmit an in-range radio signal in response to receipt of a link request radio signal from the remote unit.

11. The apparatus of Claim 10 wherein said in-range radio signal comprises a list of digital audio files stored in said memory.

12. The apparatus of Claim 1 wherein said controller is operable to control said transceiver to transmit a list of digital audio files stored in said memory in response to receipt of said in-range radio signal.

13. The apparatus of Claim 1 further comprising a user input actuator, and wherein said controller is operable to cause said transceiver to transmit and receive digital audio files with the remote device in response to actuation of said user input actuator.

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14. The apparatus of Claim 1 wherein said controller is a personal computer and an interface bus and said transceiver is disposed upon an interface card coupled to said interface bus.

15. The apparatus of Claim 14 wherein said audio output circuit is a personal computer sound card.

16. The apparatus of Claim 1 further comprising:
a display coupled to said controller, and wherein
said controller is operable to display a list of files names associated with the digital audio files stored in said memory.

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17. The apparatus of Claim 1 wherein the digital audio file reproduction device is adapted for vehicular use and said audio output circuit couples analog audio files to an existing vehicular audio system.

18. A digital audio file reproduction systems with wireless transfer capability,
comprising:

(a) a first device, further comprising;

a personal computing device having a storage unit, a keyboard, a display,
5 and a peripheral interface;

a sound circuit coupled to said personal computing device, having a first
microphone and a loudspeaker;

a first transceiver unit coupled to said peripheral interface, and operable to
transmit and receive digital audio files according to a radio protocol, and wherein

10 said personal computing device is operable to compress and decompress
the digital audio files;

wherein said personal computing device controls said first transceiver to
periodically transmit a link request radio signal for receipt by said second device, and
wherein

15 said personal computing device is operable to control said first transceiver
to transmit a list of digital audio files stored in said storage unit in response to receipt
of said in-range radio signal, and wherein

said personal computing device is operable to cause said first transceiver to
transmit and receive digital audio files with said second device in response to actuation
20 of said keyboard, and wherein

said personal computing device is operable to display a list of files names
associated with the digital audio files stored in said storage unit, and

(b) a second device, further comprising;

a memory having a card slot adapted to accept plural user replaceable
25 memory cards;

a controller, operable to compress and decompress the digital audio files,
and coupled to store and recall digital audio files with said memory;

a second transceiver, coupled to said controller, operable to transmit and receive digital audio files according to said radio protocol;

30 a microphone circuit coupled to said controller, and wherein said controller is operable to receive microphone audio signals from said microphone circuit, and operable to digitize, compress and store said microphone audio signals as digital audio files in said memory;

 an audio circuit coupled to receive audio files from said controller, and an
35 output for coupling analog audio files to an existing vehicular sound system, and wherein

 said controller is operable to control said second transceiver to transmit an in-range radio signal in response to receipt of a link request radio signal from said first device, and wherein

40 said controller is responsive to the receipt of an in-range radio signal by said second transceiver, from said first device, to exchange digital audio files with said first device via said radio protocol.

19. A method of transferring digital audio files between a first memory in a first device and a second memory in a second device using wireless transmission means, comprising the steps of:

periodically transmitting a link request radio signal by the first device;

5 transmitting a responsive radio signal by the second device, in response to receiving one of said link request radio signals;

recalling a first digital audio file from the memory of the first device and transmitting said first digital audio file to the second device and storing said first digital audio file in the memory of the second device, and

10 recalling a second digital audio file from the memory of the second device and transmitting said second digital audio file to the first device and storing said second digital audio file in the memory of the first device.

20. The method of Claim 19 further comprising the steps of:

recalling said first digital audio file from the memory of the second device, and reproducing the audio file by analog means.

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21. The method of Claim, 19 wherein said transmitting steps are accomplished according to a radio protocol.

22. The method of Claim 19 wherein the second memory includes a card slot adapted to receive a memory card, and further comprising the step of:

inserting a memory card into the memory card slot.

23. The method of Claim 19 further comprising the steps of:

compressing said first digital audio file by the first device, and

storing said first audio file in the memory of the first device.

24. The method of Claim 23 further comprising the steps of:

recalling said first digital audio file from the memory of the second device;
decompressing said first audio file by the second device, and
reproducing the audio file by analog means.

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25. The method of Claim 24 wherein the digital audio files are compressed and decompressed according to the MP3 format.

26. The method of Claim 19 wherein the second device includes a microphone circuit, and further comprising the steps of:

receiving microphone audio signals from the microphone circuit, and
digitizing said microphone audio signals, and

5 storing said microphone audio signals as digital audio files in the second memory.

27. The method of Claim 19 wherein the wireless transmission means operates in accordance with one of a wireless LAN standard protocol, the Bluetooth protocol, a proprietary cordless telephone data protocol, and the 2.4 GHz cordless protocol.

28. The method of Claim 19 wherein said responsive radio signal includes an in-range radio signal.

29. The method of Claim, 28 wherein said in-range radio signal includes a list of digital audio files stored in the second memory.

30. The method of Claim 28 and further comprising the step of:

transmitting, by the first device, a list of digital audio files stored in the first memory in response to receipt of said in-range radio from the second device.

31. The method of Claim 19 wherein the first device includes a user input actuator, and further comprising the steps of:

exchanging digital audio files between the first memory of the first device and the second memory of the second device by wireless transmission means in response to
5 actuation of the user input actuator.

32. The method of Claim 19 wherein the first device includes a display, and further comprising the step of:

displaying a list of files names associated with the digital audio files stored in the first memory.
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